

Sept - Nov 1968

S A S M E E

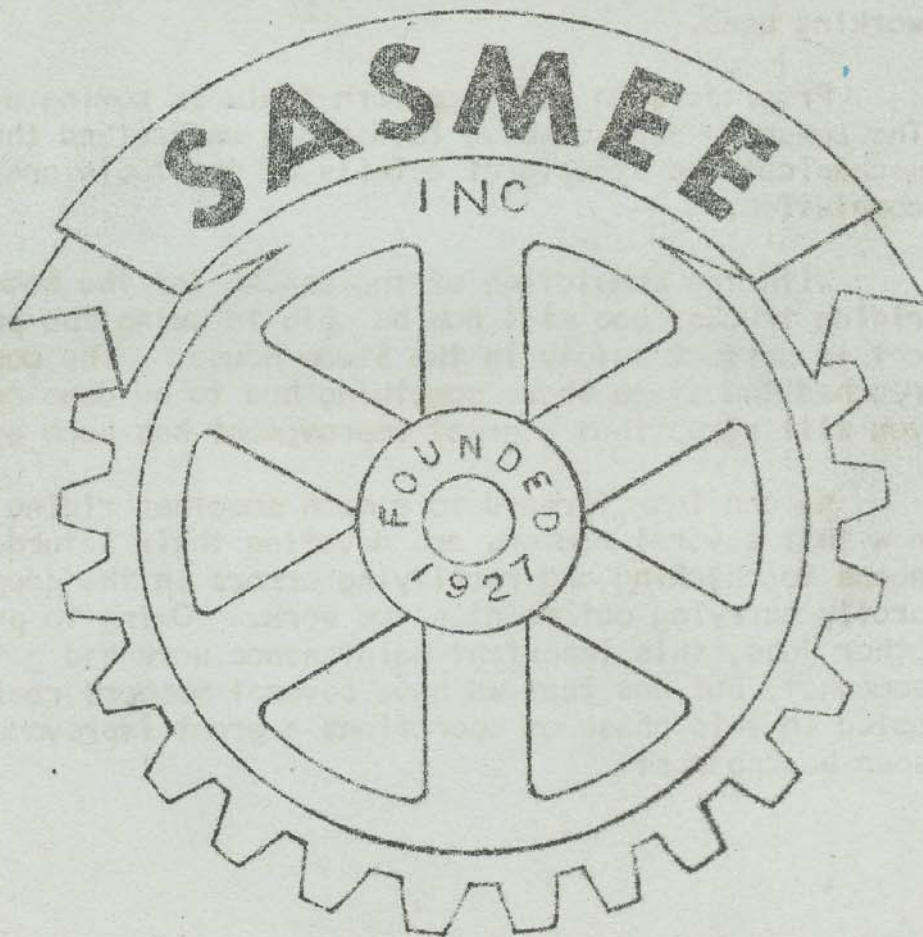
SOUTH AUSTRALIAN SOCIETY OF MODEL
& EXPERIMENTAL ENGINEERS

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BULLETIN

THE OFFICIAL JOURNAL OF THE SOUTH AUSTRALIAN SOCIETY

OF MODEL AND EXPERIMENTAL ENGINEERS.



S.A.S.M.E.E. BULLETIN

VOL. 8 No: 2.

SEPTEMBER/NOVEMBER 1968.

EDITORIAL

With the granting of the S.A.R. Commissioner's permission to enclose the lane on our Eastern boundary we now have the green light to go ahead with our development plans for converting the piece of ground on our North Eastern boundary into a car park for members. A considerable amount of work will be involved in carrying out our proposals and this is perhaps an opportune time for bringing before your notice, dear member, the need for a 100% response to appeals for your attendance at working bees.

Progress with the loco turn-table is coming along nicely. The concrete pad has been laid and I understand that the mechanical and structural details of the table are nearing completion.

With the completion of the annexe for the housing of riding trucks, one will now be able to swing the proverbial cat in perfect safety in the Steam House. The congestion had reached the stage where something had to be done and no doubt you will agree that a great improvement has been effected.

We can look forward to a much smoother riding loco track now that several members are devoting their Saturday afternoons to checking and rectifying errors in the gauge and generally carrying out maintenance work. Owing to pressure of other jobs, this important maintenance work had got behind somewhat, but now that we have several members really interested in this phase of operations a great improvement will soon be apparent.

Page 2,

EDITORIAL cont.

It is a matter of concern to all members that we are still being pestered by vandalism. In a short period damage has been done to the tunnel lighting system on two separate occasions. Although not of a highly serious nature (apart from stones placed on the rails) it is the nuisance aspect which is our main problem. Perhaps the attentions of the Guard Dog occasionally might prove helpful.

The formation of a sub-committee to handle the social side and obtain speakers for our meetings, arrange tours of factories, etc. has been completed and if you have any good suggestions regarding same contact Tom or 'Uncle'.

With our membership practically static it is up to members to try and encourage others to join our Society and experience the pleasures of modelling.

Night driving of our locos can now be enjoyed with the introduction of a special type of high powered lighting recently purchased. The whole of the grounds is flooded with light and with the coming of warmer weather, night running will probably prove very popular.

QUARTERLY AGENDA

GENERAL MEETINGS
1968

2nd Tuesday each month at 8.00 p.m.

10th SEPTEMBER

Several members will give a talk on our Track Signalling system and possibly a short explanation of electrical principals.

8th OCTOBER

Film Show. A selection of subjects from the Film Library, which S.A.S. M.E.E. has recently joined.

12th NOVEMBER

Fred Hercus will speak on Jigs and Gadgets. This should prove something to look forward to.

INTERMEDIATE MEETINGS

(Informal) 4th Tuesday each month at 8.00 p.m. 24th September, 22nd October, 26th November.

COMMITTEE MEETINGS

1st Tuesday each month at 8.00 p.m. 3rd September, 1st October, 5th November.

WORKING BEES

1st Saturday each month at 2.00 p.m.

PUBLIC FIELD DAYS

3rd Saturday each month at 2.00 p.m. 21st September, 19th October, 16th November.

FIELD DAY CANTEEN ROSTER.

SEPTEMBER

J. THURMER
H. BATEUP

OCTOBER

D. WHITE
C. HILL

NOVEMBER

S. SACCENDA
B. GREENSLADE

'PLEASE REMEMBER TO BRING THE MILK'

NOTE: IF UNABLE TO ATTEND AS PER ROSTER,
PLEASE PHONE SECRETARY - Ph.79-5292
SO THAT A RESERVE CAN BE NOTIFIED
IN TIME.

ROSTER FOR LOCKING UP ALL BUILDINGS AND GATE

<u>SEPT.</u>	7th	D. IRVING	<u>OCT.</u>	26th	A. BRABHAM
	14th	N. KERNICK	<u>NOV.</u>	2nd	J. WELCH
	21st	O. THOMAS		9th	D. IRVING
	28th	B. BROWN		16th	N. KERNICK
<u>OCT.</u>	5th	T. ENGLAND		23rd	O. THOMAS
	12th	J. WAKEFIELD		30th	B. BROWN
	19th	C. HILL	<u>DEC.</u>	7th	T. ENGLAND

Page 5.

The following message is contributed by a Member,

BEING A MEMBER

Most people do not understand what the word 'Membership' really means and feel that, if their name appears on official records and their fees have been paid, they are 'Members'.

This is only partly correct. To be a Member means that the person must participate in contributing to and utilise the benefits that accrue from Membership. It follows that the destiny of any Society is entirely dependent upon the value placed upon Membership by Members and the resulting co-operative activities.

These paragraphs are penned with the thought that, too much is expected of too few and projects that are well worth investigation are being deleted from agendas for want of interested Members who might give of their knowledge and experience.

If a Society is to keep pace with present day progress Members must be prepared to support their Executive in a more practical manner. Participating Members find that they are greatly surprised at the satisfaction derived from being in a position to contribute to the betterment of their Society without thought of personal gain.

S.A.S.M.E.E. CLUB NEWS

The Veteran Car Club suggests that they conclude a club run at S.A.S.M.E.E. Park at approximately 1.30 p.m. Sunday, 25th August. Luncheon, barbecue style, will occupy perhaps 1 hour and then our members will entertain the visitors with our locos and boat pond. We hope to have both Press and Television coverage. Apart from seeing how the other chap occupies his time with a hobby, we should gain some valuable publicity which could perhaps, help in the drive for new members. It will also present a good opportunity to view these classics of a by-gone era in all their glory at close quarters.

During a conversation with Max Dunkley, he outlined his Pacific trip which he and Mrs. Dunkley are looking forward to. They plan to leave Melbourne on the Labor Day weekend in October and sail to Japan. Here they will see Japan by various means of travel and also surrounding areas and islands. From Japan they will depart for Hong Kong. After a stay there, they will travel back to Melbourne and expect to reach home approximately in the middle of December. This briefly is Max's plans for a wonderful holiday. We all wish you and your wife a pleasant and exciting trip and trust that you will recount your experiences to us on your return, at a meeting night.

Has anybody got any suggestions for our December Barbecue? Although a long way ahead it is never too soon to think about coming events.

S.A.S.M.E.E. CLUB NEWS cont.

Everybody enjoyed the combined talk by Keith, Murray and Dave at the July meeting when they spoke of their experiences in the construction of steam operated feed water pumps. It soon became obvious that they had devoted quite a lot of time and thought to these little monsters. Talks such as this one are very helpful to all of us and it is to be hoped that others will follow their example and relate their experiences in solving problems connected with modelling.

Our worthy Treasurer, Ralph, gave me to understand that the number of members in arrears with their subscriptions is very small and it is a matter of congratulation that members realise their obligation in this respect.

Mention of our Treasurer prompts me to put on record a word of appreciation of the good work that Ralph does for us. Apart from his handling of our finances, he uncomplainingly mans the gate on every field day, irrespective of the weather. Whilst we are enjoying ourselves sailing boats and playing trains, he puts in several hours every month performing the very important job of collecting the gate money which is the life blood of any Society.

Those of us who are making the trip to Whyalla at the Labor Day weekend are eagerly looking forward to this event. The programme submitted by the boys up North is very comprehensive and if anybody fails to enjoy themselves, it will most certainly be their own fault. For

Page 8.

S.A.S.M.E.E. CLUB NEWS contd.

those who have not made the trip before, you have yet to see Uncle Al wielding the frypan early in the morning to an accompaniment of uncensored remarks, etc. The promised Barbecue at Tregelana Station is also something to remember for years to come,

Another exciting event for this year is the Festival of Hobbies at the Y.M.C.A. in Flinders Street. This should provide an excellent opportunity to bring before the Public our activities, and I hope, interest others in becoming a member. The Festival will cover the period 24th - 28th September. Arrangements for the setting up at our Exhibit will be made shortly, and will probably be on the same lines as the Hobby Show in the Adelaide Town Hall, 2 years ago,

A visit to the Adelaide Airport (probably on 19th November) should provide plenty of interest for all of those who attend. With air travel becoming every year more a part of our lives, to see behind the scenes as it were, the tour should prove both interesting and educational. Keep this date clear and further details will be announced later,

I have derived great pleasure lately by having members having a run on my garden track. Needless to say, I would welcome any one who would like to have a run,

Page 9.

S.A.S.M.E.E. CLUB NEWS cont.

I notice that there will be a Steam Rally at Lake Goldsmith on 2nd and 3rd November. There is at least 600 ft. of 3½" and 5" gauge track.

If any Member has any articles for the Bulletin, I will be very grateful for same and only too pleased to print them.

Several members have mentioned to me that they would like a milling machine. Well, I have most of the facilities for building them and if you are interested, why not get together and build several at once in my workshop. The only expense would be the casting and materials, plus cost of power for my mill.

Bulletins have been received from :

Victorian Miniature Steam Locomotive Society.
The Steam Locomotive Society of Victoria.
Illawarra Live Steamers.

These will be posted on the notice board and you are urged to read them and thereby keep in touch with our friends Interstate.

Page 10,

S.A.S.M.E.E. CLUB NEWS contd.

The following list of Members and their activities is positive proof of the keenness shown by devotees of Live Steam at S.A.S.M.E.E. This list is incomplete at this stage.

Owen suggested that I head it :

WHATS IN THE ERECTING SHOP

<u>MEMBER</u>	<u>TYPE</u>	<u>PROGRESS</u>
Fred Morcom	Maid of Kent 4-4-0 5" gauge	Frames, wheels, cyls. & motion completed.
Ian Clark	N.S.W. Govt. 217 4-4-0, 5" gauge	Wheel patterns and few small parts.
Morrie Turner	S.A.R. 520 Class 4-8-4, 5" gauge	Tender and chassis well advanced
Alec Bradley	Caribou 0-8-0 5" gauge	
Owen Thomas	Vulcan 0-6-0 S.T. 5" gauge	At drawing board stage
Dave Worrell	Netta 0-8-0 5" gauge	Frames and wheels completed
John Wakefield	Caribou 2-8-0 5" gauge	Tender, frames and wheels completed

Page 11.

WHATS IN THE ERECTING SHOP contd.

<u>MEMBER</u>	<u>TYPE</u>	<u>PROGRESS</u>
John Welch.	Jubilee 2-6-4 S.T. 5" gauge	Chassis etc. completed boiler ready for s/solder.
John Davey.	Maisie 4-4-2 3½" gauge	Tender and frames
Fred Hercus.	Modified S.A.R. RX 4-6-0 5" gauge	Completed and ready for testing.
Ralph Excell.	Butch 0-6-0, T 5" gauge	Chassis completed, also M/E beam engine
Charles Hill.	Britannia 4-6-2 3½" gauge	In the paint shop, been steamed and runs well.
Jack Spry.	Butch 0-6-0 T. 5" gauge	
Bob Brown	S.A.R. 400 Class Garrett. 4-8-2.-2-8-4 2½" gauge.	Nearing completion.
John Mell.	Hiolan Lassie 4-6-2 3½" gauge	Tender and chassis com- pleted, boiler nearly finished.

WHATS IN THE ERECTING SHOP contd.

<u>MEMBER</u>	<u>TYPE</u>	<u>PROGRESS</u>
Alan Boreham	0-6-0 T. 5" gauge	Boiler completed, start made on frames.
Dr. Laird	Virginia 4-4-0	Boiler and chassis completed.
Alan Frankham	Britannia 4-6-2 3½" gauge	In moth balls???
Roger Geisecke	Mallett 3½" gauge	Chassis and tender 90% finished, boiler completed
John Moorfield	American) 'Atlantic') 2½" gauge) English) 'Atlantic') 3½" gauge)	Both chassis and boiler completed.
Keith Bradford	N.S.W. 36 Class 4-6-0 5" gauge	Chassis, wheels and cyls. finished.
Wayne Bradford	RX. 4-6-0 3½" gauge	Has been under steam.
Ralph Skewes	S.A.R. F Class 4-6-2, 5" gauge	

Page 13.

WHATS IN THE ERECTING SHOP contd.

<u>MEMBER</u>	<u>TYPE</u>	<u>PROGRESS</u>
Len Peckham	Pamela 4-6-2 5" gauge	Chassis completed, tested under air, boiler under way.
Howard Bateup	Jubilee 2-6-4 5" gauge	Chassis wheels and cyls completed
Dennis Irving	'Atlantic' 4-4-2 3½" gauge	Tested under steam.
John Barkes	L.M.S.Princess Royal 4-6-2 3½" gauge	Tender, chassis wheels and cyls completed
Doug. White	Stanier Class 5 4-6-0 5" gauge	Frames, wheels cyls and steel boiler completed
Claude Miller	S.A.R. S.Class 4-4-0 5" gauge	Tender part finished also frames and bogie
Bert Collins	Jubilee 2-6-4 3½" gauge	Chassis completed start made on boiler
Jim Thurmer	48" Swiss Steam Barge	Twin cylinder engine and boiler finished.

WHATS IN THE ERECTING SHOP cont.

<u>MEMBER.</u>	<u>TYPE</u>	<u>PROGRESS</u>
Grayson Calvert,	'Olympiad' 4-6-0 2½" gauge. Silverton Tramways W Class 4-8-2 3½" gauge.	Nearly completed. Start made on frames
Les Matthews.	2 Stationary Steam Engines 1 vertical 1 horizontal.	Completed, start made on vertical boiler
Syd Gabb.	Stuart Turner Beam Engine Stuart Turner Mill Engine	Nearly finished Nearly finished, also vertical steam boiler
Clary Burden.	Patrick Stirling Single. 4-2-2.	Frames part finished. Bogie part finished, plus a number of small parts.

Added to this rather impressive list are probably quite a number of projects which have not as yet reached the drawing board, but are revolving in the prospective builders mind. The problem now arises, where are we going to run all of them? No doubt this will solve itself quite simply. I think that we can congratulate ourselves on the keenness shown by S.A.S.M.E.E. members, and it is proof that Live Steam is growing more than ever in popularity.

Page 15.

I recently had the pleasure of a visit to your Secretary's workshop (the nights are rather chilly these days) and after fighting my way through the cobwebs, etc. found things were still there. To those of you who have seen it you will agree that while it is a rather untidy looking place, there are several pieces of useful machinery scattered around.

Upon entering the door (accompanied by loud scraping noises) a large 2 bar lathe confronts one. Although obviously home-made it has done a man sized job for many years, and still continues to do so. On your left is a 5 H.P. 3 phase motor driving the main shaft, which supplies power to several other machines. Behind the lathe is a shaping machine. It is probably eighty or ninety years old and is still capable of doing a fair days work. Next to it is a drilling machine of the older type, the drive being by belt to a shaft fitted with bevel gears. On your left is a power saw, capable of cutting up to 5" dia. steel. There is also an 8" double ended grinding wheel head, belt driven. All of this plant is housed in an old garage measuring 10' x 18', and believe me one has to watch their step when all the belts are running. In an adjoining but larger workshop is located a large Denbigh Milling machine. Under the same roof is a 5" lathe, one of many built here, and a motorised drilling machine.

I suppose that I have the usual assortment of hand tools to be found in a modellers workshop, such as a fair assortment of taps and dies, measuring tools, files, etc. There is also air and mains gas brazing equipment, a forge and air compressor. A handy gas cylinder and torch for small silver soldering jobs just about completes the set-up. Most of the equipment has been used for many years, manufacturing drilling machines, bench lathes and similar machines, and this explains the size of some of it.

Several members have used some of it, and if you have a problem with your smaller lathes, don't hesitate to pay me a visit. Over the past several years, I have gained much pleasure from visiting and writing about members workshops, and so I took the liberty of describing mine with the hope that it might be of some interest to you.

The following is a letter from Bob Smith (of Kings Cross fame). Bob is at present in Brisbane and he kindly sent me the following:

I was glad to receive the S.A.S.M.E.E. Bulletin, keeping me in touch with activities during my absence, and hence give my regards to all at S.A.S.M.E.E., and I hope all is going well around the grounds as I hope to return in the not too distant future. I miss the '520' a little, but the thought is there.

After a most enjoyable Easter Convention at Moorabbin, I packed the diesel and riding truck into the car, along with all my other gear and headed for Brisbane, with a friend I met in Melbourne. We toured through Yallourn, visiting the open cut mine and power station, and stayed overnight at the beautiful Lakes Entrance. Next day, through the State forests of Eastern Victoria we crossed the well known Snowy River near Orbost. Sydney was the next place of interest, after passing through Pt. Kembla and up the steep Bulli Pass. On arrival, contacted a member of the Sydney Live Steam Locomotive Society who informed me that Saturday was a charity day at West Ryde. When I arrived there, a crowd of excited children converged on the few locos that were running on the two tracks, queuing up for rides. John Hurst's big 4-8-2 was doing most

of the work, being the only loco running on the 5" gauge ground track, as two other locos present didn't want to go as well as they should.

On the 2½", 3½" track, with only two locos running, I fought through the boot of the car to get my '900' diesel out and going. After the usual perseverance cranking, managed to get her going, where she didn't miss a beat all the afternoon, carrying excited passengers, many of whom hadn't seen a model diesel before.

Of course, during my weekend stay in Sydney, visited the night spots of Kings Cross, dining at nice restaurants, living it up.

We then drove on visiting various scenic bays, capes, and towns of New South Wales along the Pacific Highway, including Cape Byron which is Australia's farthest Easterly point, and then on to the Gold Coast. The next day we made it, sunny Brisbane where I am now living, working in a small jobbing shop. After contacting the Model Engineers here, attended a running day for members and friends at Merv. Olson's track which he has recently completed. It is about 700 ft. long in 5" and 3½" gauge, ground level, doing a double circuit around the block with a cross over and a double track bridge 15 ft. long. This was a most enjoyable day, driving the '900' diesel, awkwardly around the ground level track, removing the foot boards from my truck, fitting stirrups. There were several steam Locos including 3½" Major (ex Fred Pascoes') and J. Jackson's 3½" Micado.

One sunny Sunday, behind a Queensland Railways C 17 headed for Ipswich, on an Historic trip. At Ipswich, 'Pompey' an old 0-6-0 loco normally used for shunting, was put in front of the train, taking it to Rosewood where the

Page 18.

loco was turned around, and placed on the other end to take us into the hills, past the disused coal mines. After a hard climb, with some steaming difficulties, the little engine eventually got us to a small siding, where we dined beside the track in beautiful sunshine, before the return journey.

Around here they still use many steam locos in goods yards, so it is nothing unusual to hear a shrill whistle, followed by panting and puffing, but diesels are rapidly taking over. There are some N.S.W. G.R. 50 and 52 class locos shunting in the standard gauge yards at South Brisbane Interstate terminal. I have spent much time admiring these rapidly dying steam locos in normal service.

Alternately monthly running days of the Queensland Society of Model Engineers is held on Eric Evan's track at Kuraby. This track is also ground level, running around his house, about 350' around, 3½" and 5" gauge. It crosses the drive and path in the form of a level crossing, and then into a scenic rockery and a slight gradient to the bottom of the yard where points lead to the steaming bay. I spent a pleasant afternoon here, the diesel proving its ability among the finer locomotives.

A club track is being built at Strathpine to cater for 7½", 5" and 3½" gauge on a large piece of land, but won't be ready for a few years yet.

BOB SMITH.

We look forward to meeting you again soon Bob.

MAKING A WORM WHEEL by Alan Frankham.

Last summer while the heat was really on the oscillating part of the home electric fan decided to give up, this meant that only half the area usually covered by the cool breeze was available and I took up all of this area. My wife was in the other area not cooled and of course, her temper became nearly as hot as the weather, so much so that I decided to do something about it. I dismantled the parts and discovered a small worm wheel made of brass had worn so badly that the pinion would not turn it. I went to a shop in Adelaide who usually have such gear, but the chap behind the counter thought that I was some kind of a nut for asking for such a thing, I said OK I will make one if you can't sell me one and this time he fixed me with a really mad stare. However, I remember Fred Hercus giving a talk on hobbs and gear cutting some years ago and decided to give it a go. I first found out the threads per inch with a thread gauge, this being 24. I set up the gears and screw cut a piece of steel to correct diameter and thread then filed some slots along this piece for clearance and finally hardened with hardite. I then turned 3 brass discs to the required size and thickness and made a holder that would accommodate them in the tool post holder. It was then too easy and I made up 3 worm wheels in a matter of minutes by feeding the cross slide in towards the hobb which was running between centres. The result was the cooling system works again and will no doubt last until air conditioners become cheaper.

CONTINUING 'BRITANNIA' in 5" GAUGE BY C. BURDEN

I forgot to mention in the previous Bulletin that I completed the tender first because of my impatient nature I did not wish to have an engine without a tender and not able to run it. With tender finished and engine frames, wheels and bogies completed I turned my attention to cylinders. Cast in phosphor bronze, they were bolted in turn to the lathe cross slide, set to the centre height and bored. Boring was done with a boring bar and fly cutter mounted in the lathe centres. This method ensures a parallel hole. A good finish was obtained by using the finest feed and a keenly honed cutter. The last cut was only a few thou and was run through a second time without any alteration. This method was used both for piston and piston valve bores. The valve liners were also bored the same way. The cylinders were then, end for end, placed on a stub mandrel mounted in the 4 jaw and the ends faced off square. Pistons were turned from aircraft frame metal and piston valves from gunmetal. The valve liners were in turn pushed onto a mandrel and turned between centres.

After fitting piston rods, the crossheads were made from solid steel, the cavity was rough drilled and then finished with an end mill in the Donbigh.

The con.rod gudgeon pin is No.1 morse taper with the centre part turned parallel to suit the bush in rod. I find that this method provides a solid setting for a highly stressed part. Connecting and coupling rods were next marked out and then the excess metal removed in the mill which made short work of that job.

The valve motion work followed next and here I departed from Brit.practice slightly. Dispensing with a tricky

'BRITANNIA' in 5" GAUGE contd.

casting which supports the expansion link I used a steel angle bolted to the main frames and made the link of the enclosed type. In most other detail I followed the book and have been pleased with the performance of the motion.

Correct centres of the coupling rods were obtained simply by means of a bar of adjustable length fitted with bushes. The bushes O.D. was a neat fit in the previously fitted axle boxes and the bore the drill size for drilling the rod bush holes. The bar with bushes projecting on one side was presented to the axle boxes and adjusted until they entered smoothly. The bar was then locked in regards to length, withdrawn and the rods clamped on the reverse side and the bushes were used as drill guides.

With the completion of the remaining bits and pieces assembly followed smoothly. It was a wonderful moment when I applied about 15 P.S.I. of air to one of the cylinders and the whole box of tricks began to revolve. The construction of the boiler and fire box followed the usual procedure. The barrel was made from S/D copper tube, 6.1/8" dia. It is about 3/4" smaller than it should be and this accounts for the priming if the water level rises slightly.

Thanks to Bill Muller and his oxy/acet.outfit, the soldering presented no difficulty, the only trouble experienced was a leak in the combustion chamber tube plate. With this overcome, boiler fittings, super-heater components etc. were made, pipe work installed and one fine Saturday afternoon exactly one week before the Easter Convention 1967, with Dave, Keith and Wayne helping all that morning, the fire was lit and thirty minutes later, the result of 3 years of work moved slowly off to the hiss of escaping steam and a steady exhaust note. Several months later the boiler was removed and lagged and cab fitted.

'BRITANNIA' in 5" GAUGE contd.

Although not built to glass case finish and incomplete as regards certain fittings, 'Britannia' has proved a reliable and fairly powerful performer, and I am very pleased with the result of several years enjoyable work.

I would like to thank those members who so kindly helped me with its construction.

CLARY BURDEN

EDITED BY: C. BURDEN

PRINTED BY: T. ENGLAND

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